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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,476	04/08/2004	Peter J. Hopper	100-18110 (P05269-D01)	8696
33402	7590	04/14/2006	EXAMINER	
LAW OFFICES OF MARK C. PICKERING P.O. BOX 300 PETALUMA, CA 94953			NGUYEN, TUAN H	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,476

Applicant(s)

HOPPER ET AL.

Examiner

Tuan H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-13 and 17-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 9, 11, 17-20, 23, 24, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 8, 10, 12, 13, 21, 22, 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/05, 2/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings were received on 5/25/05. These drawings are acceptable.

Allowable Subject Matter

The indicated allowability of claims 7, 9, 11, 18, 20, 23, 24, 26 are withdrawn in view of the newly discovered reference(s) to An et al.. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 9, 11, 17-20, 23, 24, 26, 27 are rejected under 35 U.S.C. 102(b) as being anticipated by An et al. (US Pat. No. 6,051,470).

An et al. discloses the claimed method of forming a semiconductor device including: forming a layer of insulation material 30 having a first opening that defines a first side wall and an opposing second side wall over a semiconductor substrate 10 (fig. 7, col. 3, fifth paragraph); forming and etching a first layer of conductive material 80 on the layer of insulation material 30 to contact the opening, and etching the first layer of conductive material to form a first conductive spacer 80 that adjoins the first side wall and the second side wall, and a second opening (fig. 8 and text on col. 3, sixth paragraph); forming a first layer of isolation material 90 on the layer of insulation

material 30 and the first conductive spacer 80 to contact the second opening (fig. 9 and paragraph bridging col. 3-4); forming a conductive region 125 on the first conductive spacer 80 and the first layer of isolation material 90, the conductive region 125 making an electrical connection with the first conductive spacer 80 (fig. 12, col. 4, fourth paragraph).

With respect to claims 9, 23, 24, see fig. 11 and text on col. 4, third paragraph for the step of planarization.

With respect to claim 11, the conductive region 125 is inherently masked and etched in the subsequent step to form the gate of the MOSFET and complete the device structure.

With respect to claim 17, a trench is formed in the insulation region 50, 30, 12; the trench having a side wall surface extending continuously from the top surface to the bottom surface, the side wall surface exposing only the insulation region; conformally forming and etching a conductive material to form an opening and a conductive spacer 80 (fig. 8) and forming a layer of isolation material 90 on the insulation region and the conductive spacer 80 to contact the opening (fig. 9).

With respect to claims 18 figs. 11-12 and related text show the steps of etching the layer of isolation material 90 to expose the conductive spacer 80 and forming a conductive region 125 on the conductive spacer 80 and the layer of isolation region 90, the conductive region 125 making an electrical connection with the conductive spacer 80 as shown in fig. 12.

With respect to claim 19, figs. 9-10 show the steps of etching the layer of isolation material to form a hole and an isolation spacer 90 that contacts a side wall of the conductive spacer 80; and forming a layer of conductive material 100 on the insulation region 50, 30, the conductive spacer 80 and the isolation spacer 90 to contact the hole.

With respect to claim 20, figs. 11-12 show the steps of etching the layer of conducting material 100 from the top surface of the insulation region to expose the conductive spacer 80; and forming a conductive region 125 on the conductive spacer 80, the isolation spacer 90 and the conductive material 100 in the hole, the conductive region 125 contacting the conductive spacer 80 and the conducting material 100 to make an electrical connection.

Allowable Subject Matter

Claims 8, 10, 12, 13, 21, 22, 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

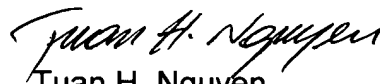
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is 571-272-1694. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on 571-272-1702. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan H. Nguyen
Primary Examiner
Art Unit 2813